PARTNER

All in one POS Terminal

PT-5900

User Manual

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Federal Communications Commission (FCC)

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and the receiver.

Connect the equipment onto an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

Shielded interconnect cables and a shielded AC power cable must be employed with this equipment to ensure compliance with the pertinent RF emission limits governing this device. Changes or modifications not expressly approved by the system’s manufacturer could void the user’s authority to operate the equipment.

Declaration of conformity

This device complies with part 15 of the FCC rules. Operation is subject to the following conditions:

This device may not cause harmful interference, and

This device must accept any interference received, including interference that may cause undesired operation.

About this manual

This manual is intended for system administrators who are familiar with setting up a new system and installing an operating system.

The manual consists of the following sections:

Chapter 1 Getting Started:	This section covers unpacking and checking the package contents, and identifying components. Information on connecting peripheral devices, powering on and setting COM ports.
Chapter 2 BIOS Setup Utility:	The BIOS chapter provides information on navigating and changing settings in the BIOS Setup Utility.
Chapter 3 Upgrading Components:	This section provides information on upgrading components.
Appendix:	The appendix covers troubleshooting, information on having the PT-5900 serviced, and technical specifications.

Safety information

Before installing and using the PT-5900, take note of the following precautions:

- Read all instructions carefully.
- Do not place the unit on an unstable surface, cart, or stand.
- Do not block the slots and opening on the unit, which are provided for ventilation.
- Do not push objects in the ventilation slots as they may touch high voltage components and result in shock and damage to the components.
- Only use the power source indicated on the marking label. If you are not sure, contact your dealer or the Power Company.
- The unit uses a three-wire ground cable, which is equipped with a third pin to ground the unit and prevent electric shock. Do not defeat the purpose of this pin. If your outlet does not support this kind of plug, contact your electrician to replace your obsolete outlet.
- Do not place anything on the power cord. Place the power cord where it will not be in the way of foot traffic.
- Follow all warnings and cautions in this manual and on the unit case.
- When replacing parts, ensure that your service technician uses parts specified by the manufacturer.
- Avoid using the system near water, in direct sunlight, or near a heating device.

WARNING

The system uses a 3V CR2032 battery mounted on the mainboard to keep time. There is a risk of explosion if the wrong battery type is used when replacing. Dispose of used batteries according to local ordinance regulations.

CAUTION

The USB ports can be damaged if care is not taken when connecting devices. Ensure USB devices are correctly inserted.

Plugging a phone line into the LAN port (RJ-45 connector) can damage the connector. Take care only plug an RJ-45 connector into the LAN port.

Revision history

Version 1.0, November 2010

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CHAPTER 1
GETTING STARTED

This chapter describes the procedures from unpacking the PT-5900, to powering it on. The following topics are described.

- Unpacking the machine on page 1
- Checking the package contents on page 2
- Identifying components on page 3
- Connecting peripheral devices on page 6
- Powering the machine on and off on page 7
- Setting COM ports on page 8

Unpacking the machine

The machine and cable accessories are packed in a cardboard carton with foam padding for protection during shipping.

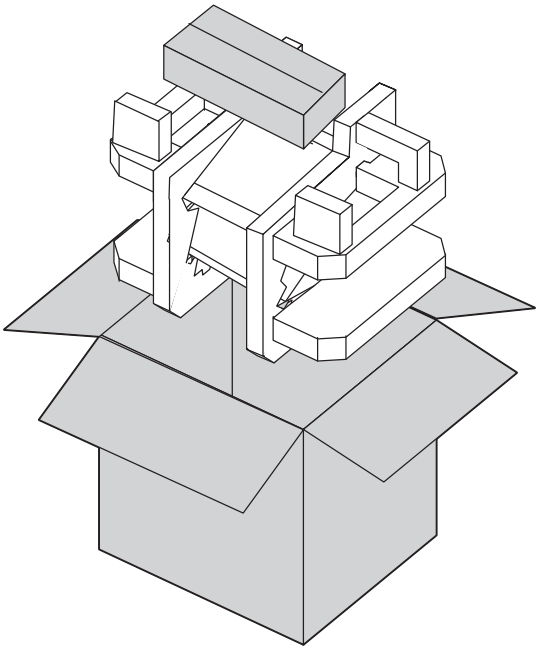
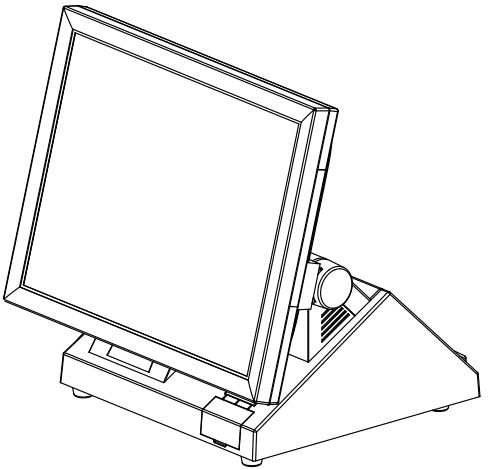


Figure 1.1 Unpacking the machine

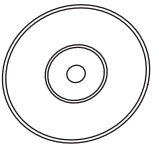
Carefully unpack the machine and keep the packing materials. If you need to ship it in the future, repack it as shown in Figure 1.1.

Checking the package contents

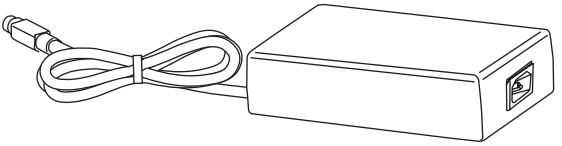
After you unpack the device check that the following items are included.



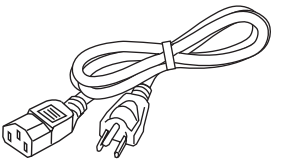
PT-5900



Driver CD with drivers and the user manual PDF file.



Adapter



Power Cable

If any item is missing or appears damaged, contact your dealer immediately.

Identifying components

This section describes the parts and connectors on the machine.

Front-right view

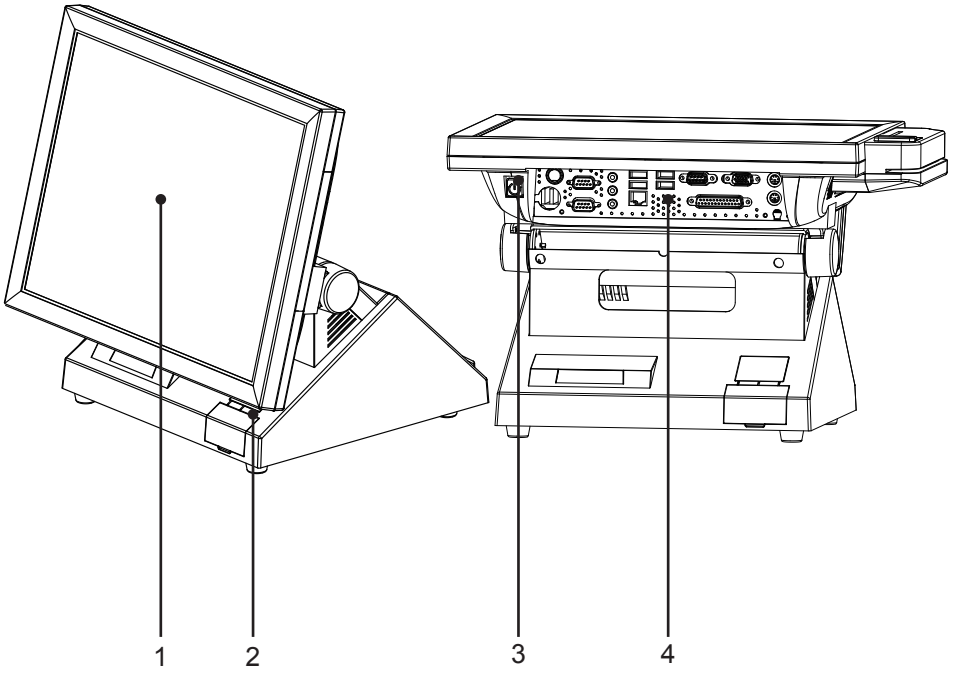


Figure 1.2 Front-right view

Component	Description
1	15-inch TFT LCD
2	Power LED indicator
3	Power Button
4	IO Panel

Rear view

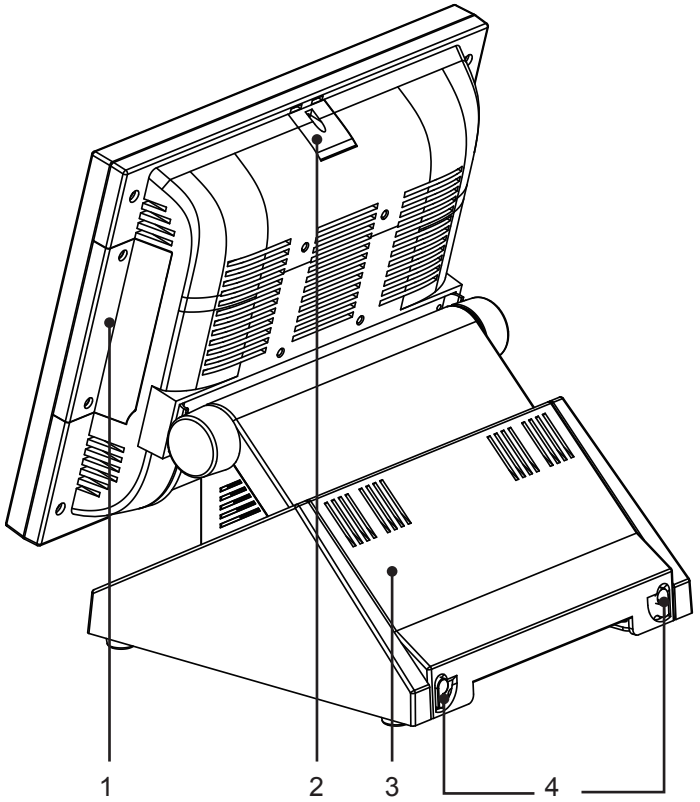


Figure 1.3 Rear view

Component	Description
1	MSR (optional) Slot
2	VFD Customer Display (optional) Slot
3	Rear Cover
4	Rear Cover Latches

I/O connectors

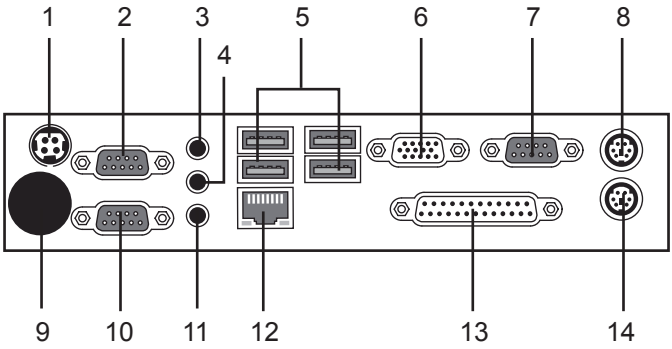


Figure 1.4 PT-5900 I/O connectors

Connector	Description
1	DC 12V input connector
2	COM3 port
3	Microphone jack
4	Line-Out jack
5	USB port
6	VGA port
7	COM1 port
8	PS/2 port (for MSR)
9	HDD cable hole
10	COM4 port
11	Line-In jack
12	LAN jack
13	LPT port
14	PS/2 port

Connecting peripheral devices

Peripheral devices such as a printer or scanner can be connected to the machine. Refer to the user manual of the device you are connecting for instructions on installing drivers where needed.

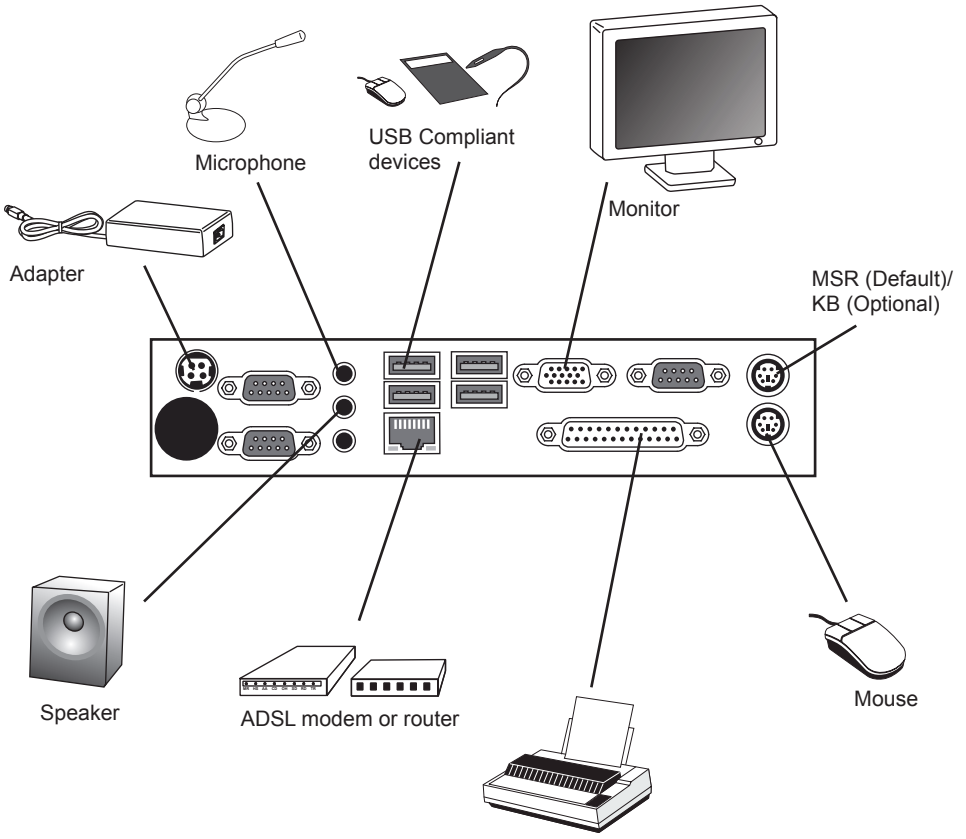


Figure 1.5 Connecting peripheral devices

NOTE

COM1 is designed to support RS-232 interface devices, cable length is limited to 4.5 feet.

COM3 and COM4 are designed to support RS-232 interface devices as well, cable length can be up to 40 feet.

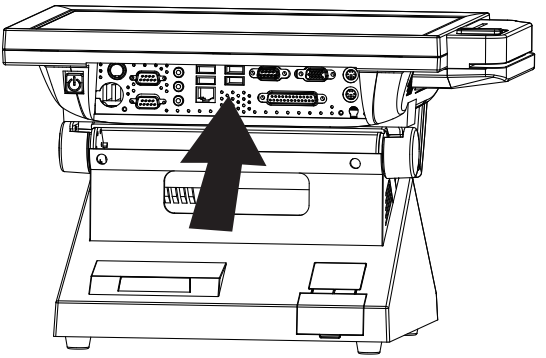
CAUTION

Do not plug a phone line into the RJ-45 (ADSL or router) connector. Doing so can damage the connector.

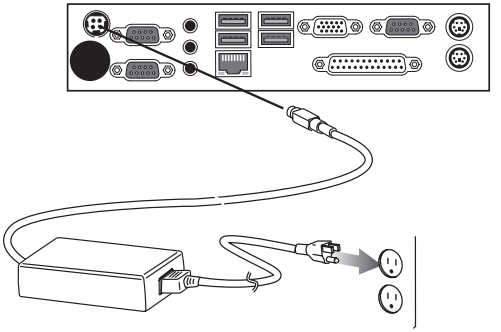
Powering the machine on and off

Refer to the following to power on and off the machine.

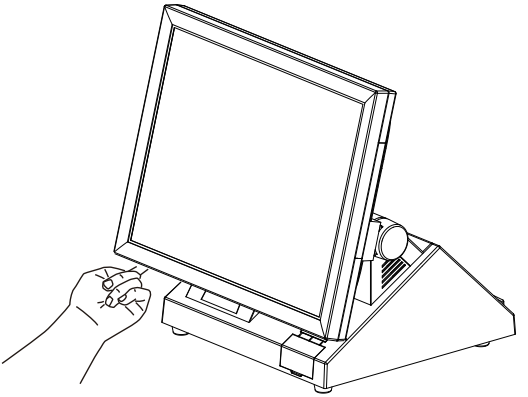
1. Locate the I/O panel that is at the bottom of the machine.



2. Connect the power cable to the adapter.
3. Connect the adapter to the DC 12V input connector on the IO panel.
4. Insert the power plug into an electrical outlet (AC100 - 240 V).



5. Press the power button, it's at the bottom left of the machine. The power LED turns on.
6. To turn off the machine, shut down the operating system. The main power turns off automatically.



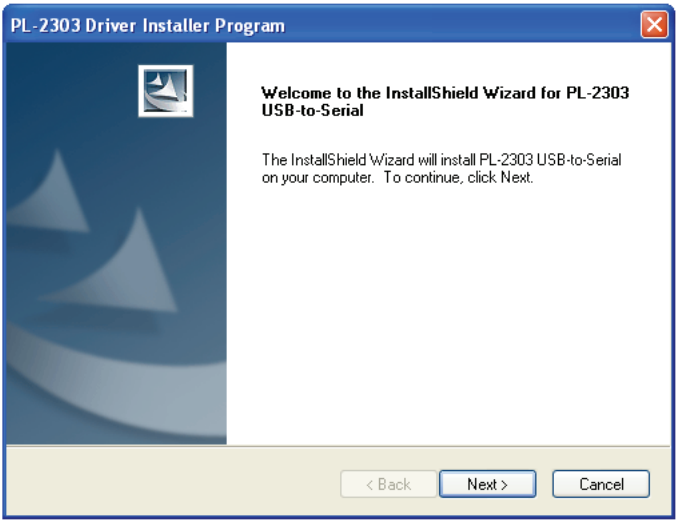
CAUTION ***Using adaptor higher than 12V/12.5A may damage the system.***

NOTE ***You may need to force power off the machine, for example if the operating system you are using does not support power down by the OS or if the system crashes or hangs. To force power off , long press the power button for five seconds.***

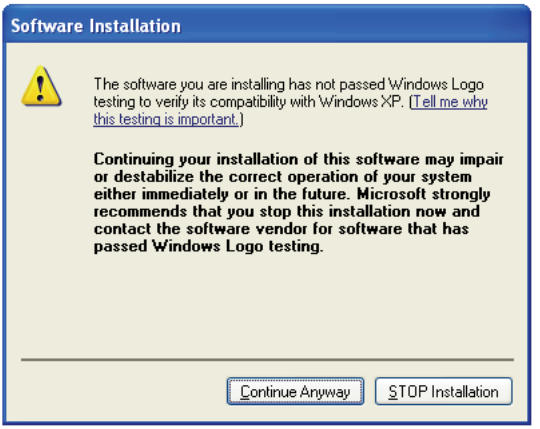
Setting COM ports

Before you connect devices to COM3, COM4, COM5 ports, the drivers must be installed first. Follow these instructions to install drivers:

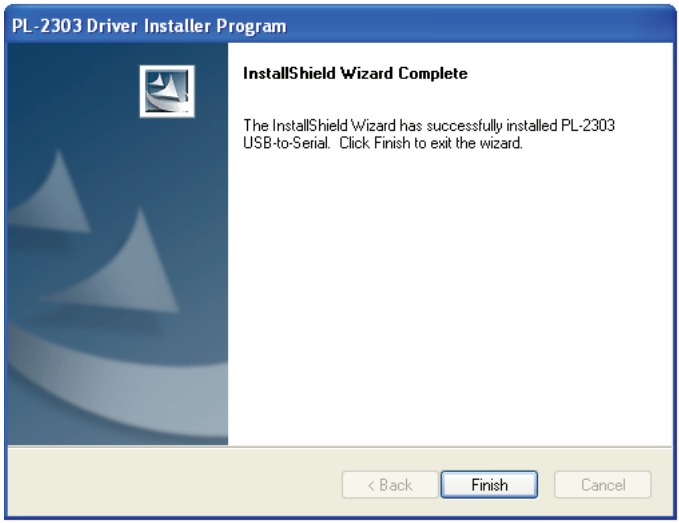
1. Browse to the \DRIVER\USB to Serial COM port.
2. Double-click PL2303-Driver.exe. The following screen appears. Click **Next** to continue.


PL-2303 Driver Installer Program
Welcome to the InstallShield Wizard for PL-2303 USB-to-Serial
The InstallShield Wizard will install PL-2303 USB-to-Serial on your computer. To continue, click Next.
< Back
Next >
Cancel

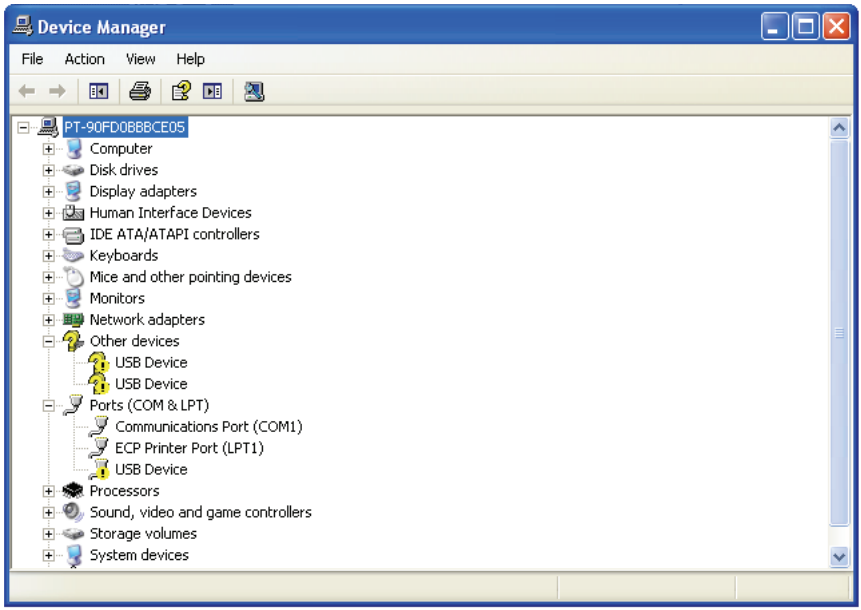
3. Click **Continue Anyway**.


Software Installation
The software you are installing has not passed Windows Logo testing to verify its compatibility with Windows XP. (Tell me why this testing is important.)
Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the software vendor for software that has passed Windows Logo testing.
Continue Anyway
STOP Installation

4. Click **Finish** to close.


PL-2303 Driver Installer Program
InstallShield Wizard Complete
The InstallShield Wizard has successfully installed PL-2303 USB-to-Serial. Click Finish to exit the wizard.
< Back
Finish
Cancel

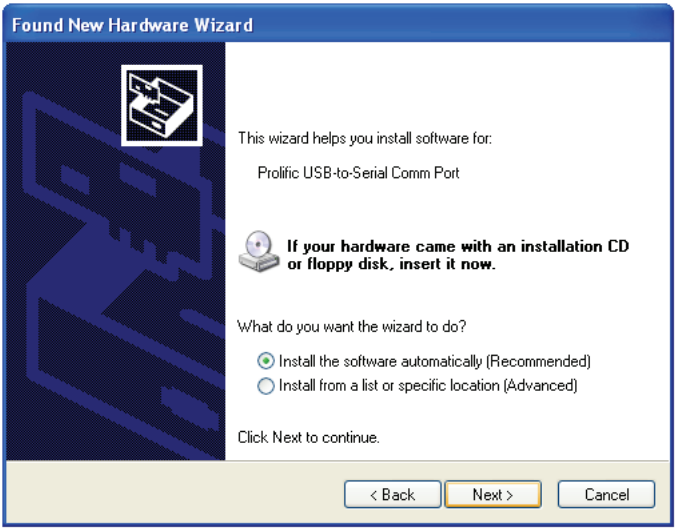
5. Go to **Start → Control Panel → System → Hardware tab → Device Manager**.
6. Right click on **Universal Serial Bus controllers**, and select **Scan for hardware changes**. The system will detect USB devices.



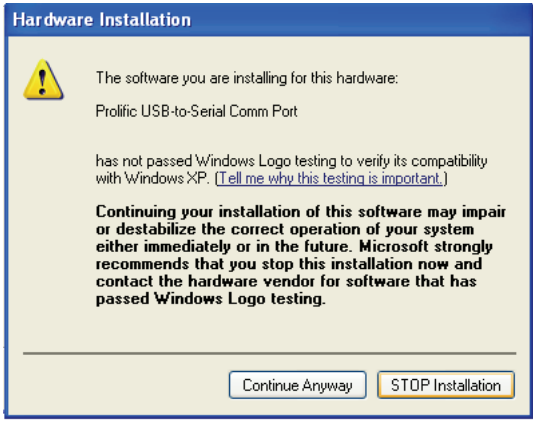
7. When Found New Hardware Wizard appears, check **Yes, now and every time I connect a device** and then click **Next** to continue.

Found New Hardware Wizard
Welcome to the Found New Hardware Wizard
Windows will search for current and updated software by looking on your computer, on the hardware installation CD, or on the Windows Update Web site (with your permission).
Read our privacy policy
Can Windows connect to Windows Update to search for software?
Yes, this time only
Yes, now and every time I connect a device
No, not this time
Click Next to continue.
< Back
Next >
Cancel

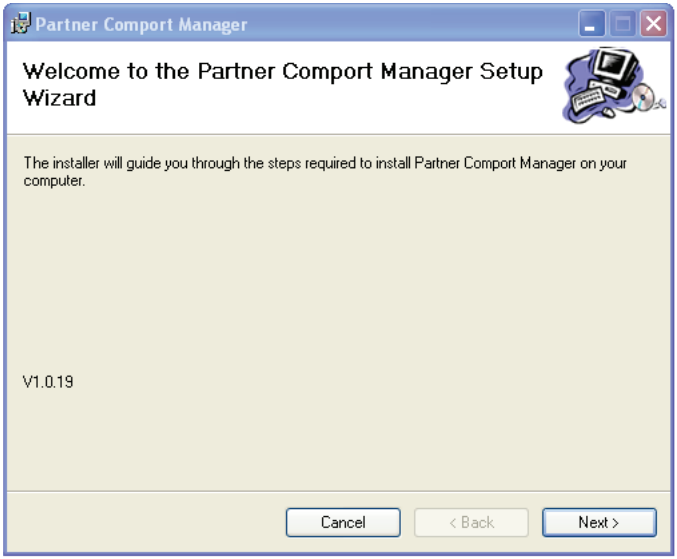
8. Check **Install the software automatically**, and then click **Next** to continue.


Found New Hardware Wizard
This wizard helps you install software for:
Prolific USB-to-Serial Comm Port
If your hardware came with an installation CD or floppy disk, insert it now.
What do you want the wizard to do?
Install the software automatically (Recommended)
Install from a list or specific location (Advanced)
Click Next to continue.
< Back
Next >
Cancel

9. Click **Continue Anyway**. Step7 to Step9 need to repeat three times.

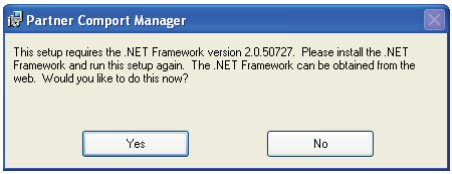

Hardware Installation
The software you are installing for this hardware:
Prolific USB-to-Serial Comm Port
has not passed Windows Logo testing to verify its compatibility with Windows XP. (Tell me why this testing is important.)
Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing.
Continue Anyway
STOP Installation

10. Next browse to the \DRIVER\Com_Setting. Double-click Com_Setting.msi to install Partner Comport Manager. Click **Next** to continue.

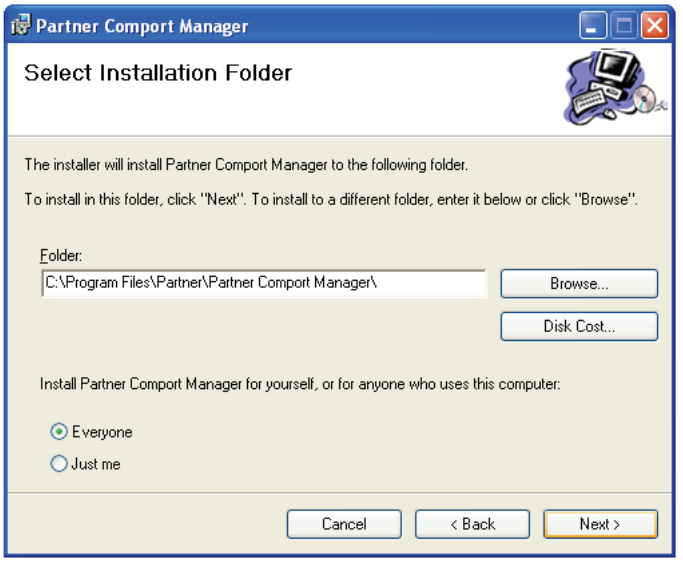

Partner Comport Manager
Welcome to the Partner Comport Manager Setup Wizard
The installer will guide you through the steps required to install Partner Comport Manager on your computer.
V1.0.19
Cancel
< Back
Next >

NOTE

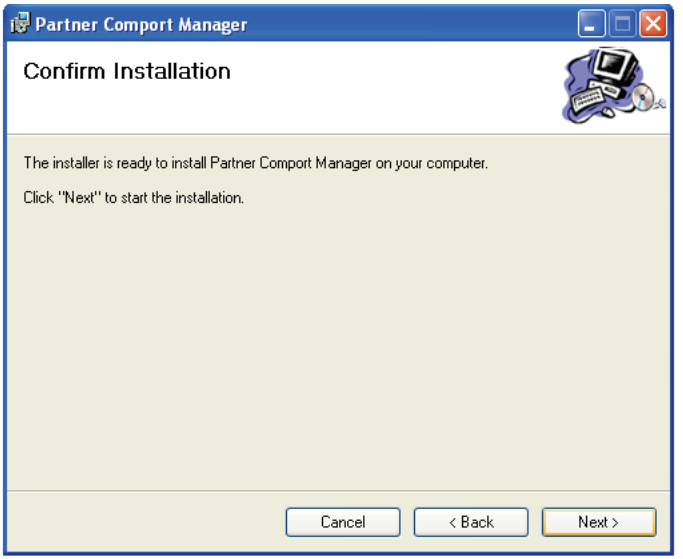
Partner Comport Manager requires .Net Framework, if it is not installed then it will prompt to install it.


Partner Comport Manager
This setup requires the .NET Framework version 2.0.50727. Please install the .NET Framework and run this setup again. The .NET Framework can be obtained from the web. Would you like to do this now?
Yes
No

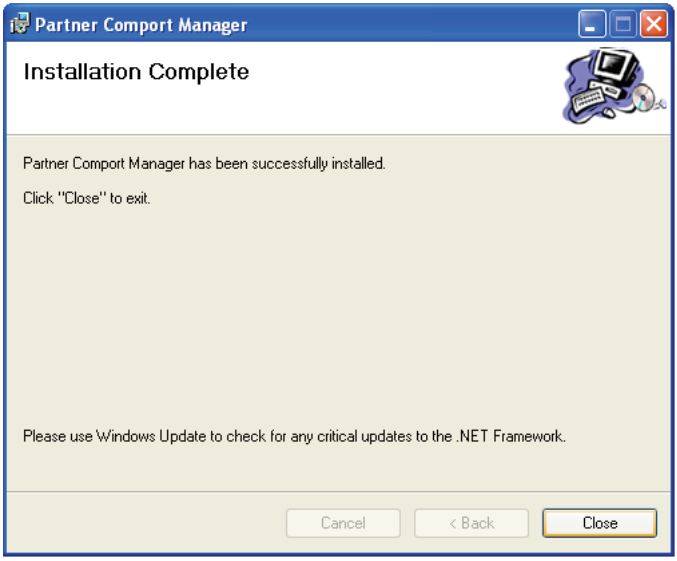
11. Click **Next** to continue.


Partner Comport Manager
Select Installation Folder
The installer will install Partner Comport Manager to the following folder.
To install in this folder, click "Next". To install to a different folder, enter it below or click "Browse".
Folder:
C:\Program Files\Partner\Partner Comport Manager\
Browse...
Disk Cost...
Install Partner Comport Manager for yourself, or for anyone who uses this computer:
Everyone
Just me
Cancel
< Back
Next >

12. Click **Next** to continue.

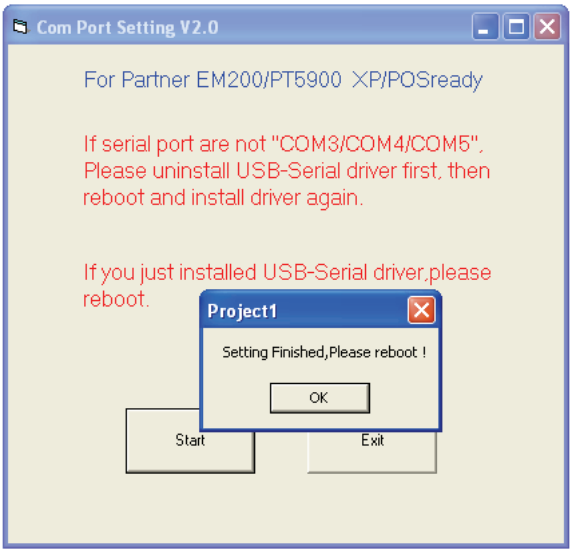

Partner Comport Manager
Confirm Installation
The installer is ready to install Partner Comport Manager on your computer.
Click "Next" to start the installation.
Cancel
< Back
Next >

13. Click **Close** to complete the installation.


Partner Comport Manager
Installation Complete
Partner Comport Manager has been successfully installed.
Click "Close" to exit.
Please use Windows Update to check for any critical updates to the .NET Framework.
Cancel
< Back
Close

14. Go to **Start → All programs → Partner Comport Manager → Com_setting.**

15. When the following screen appears. Click **Start** and then restart the system.



CHAPTER 2
BIOS SETUP

The primary function of the BIOS (Basic Input and Output System) is to identify and initiate component hardware. The BIOS parameters are stored in non-volatile BIOS memory (CMOS). CMOS contents don't get erased when the computer is turned off. The following topics are described in this chapter.

- About the Setup Utility on page 15
- Main Screen on page 18
- OC Tweaker on page 19
- Advanced Settings on page 20
- H/W Monitor on page 29
- Boot Settings on page 30
- Security Settings on page 32
- Exit Menu on page 33

About the Setup Utility

The BIOS Setup Utility enables you to configure the following items:

- Hard drives, diskette drives, and peripherals
- Video display type and display options
- Password protection from unauthorized use
- Power management features

This Setup Utility should be used for the following:

- When changing the system configuration
- When a configuration error is detected and you are prompted to make changes to the Setup Utility
- When trying to resolve IRQ conflicts
- When making changes to the Power Management configuration
- When changing the User or Supervisor password

Entering the Setup Utility

When you power on the system, BIOS enters the Power-On Self Test (POST) routines. POST is a series of built-in diagnostics performed by the BIOS. After the POST routines are completed, the following message appears:

Press F2 or DEL to run Setup

Press the delete key <Delete> to access the BIOS Setup Utility:

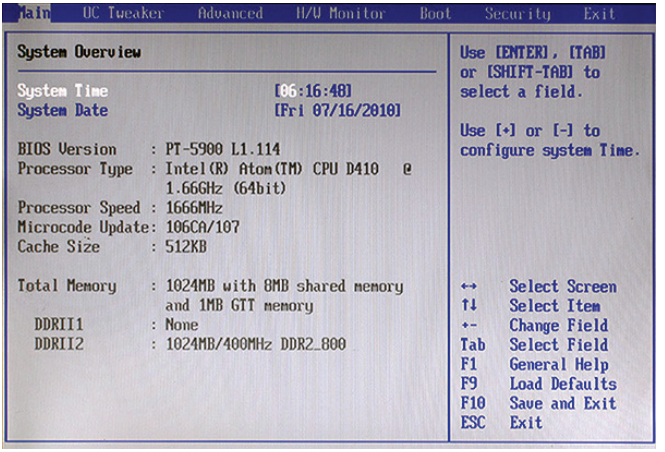


Figure 2.1 Main BIOS screen

BIOS navigation keys

The BIOS navigation keys are listed below.

Key	Function
← →	Select screens
↑ ↓	Select items
+ –	Modify the selected field's values
Enter	Go to sub screen
F1	Display a screen that describes all key functions
F9	Load the default settings
F10	Save the current configuration and exit BIOS setup.
Esc	Exit the current screen

Using BIOS

When you start the Setup Utility, the main screen appears. The main screen of the Setup Utility displays a list of the options that are available. A highlight indicates which option is currently selected. Use the cursor arrow keys to move the highlight to other options. When an option is highlighted, execute the option by pressing <Enter>.

Some options lead to pop-up dialog boxes that prompt you to verify that you wish to execute that option. Other options lead to dialog boxes that prompt you for information.

Some options (marked with a triangle ►) lead to sub screens that enable you to change the values for the option. Use the cursor arrow keys to scroll through the items in the sub screen.

Main Screen

This screen includes System BIOS Information, Processor, System memory and displays the System Time and System Date.

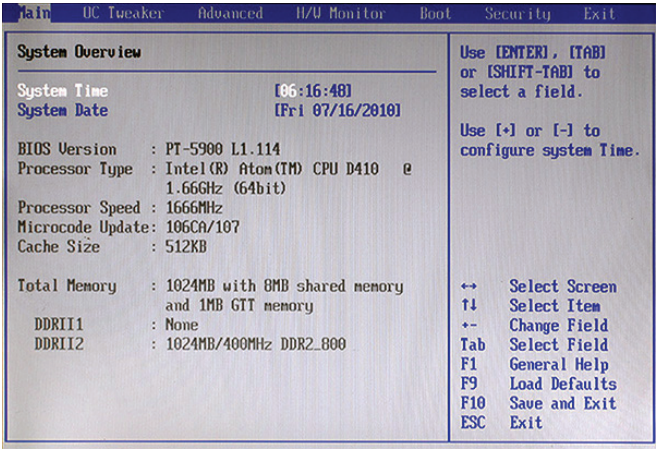


Figure 2.2 Main Screen

System Overview

This screen displays System BIOS Information, Processor, System memory, System Time and System Date.

System Time/ System Date

The System Time and System Date items show the current date and time held by the machine. If you are running a Windows OS, these items are automatically updated whenever you make changes to the Windows Time and Date Properties utility.

OC Tweaker

In the OC Tweaker screen, you can set up overclocking features.

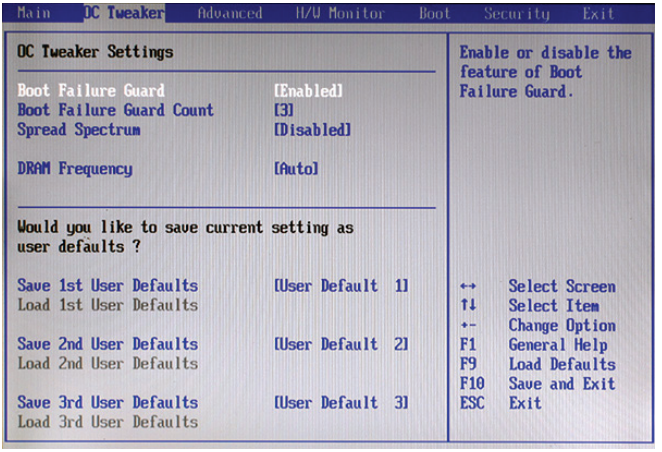


Figure 2.3 OC Tweaker Screen

Boot Failure Guard

Boot Failure Guard is a boot failure restore feature. While system could not bootup normally at overclocking setting, the safe boot up mode will be issue from Boot Failure Guard and provide a BIOS setting Interface to parameter reset/correction. This item is used to enable/disable the feature of Boot Failure Guard.

Boot Failure Guard Count

This item is used to enable/disable the feature of Boot Failure Guard Count.

Would you like to save current setting as user defaults?

You can load and save three user defaults according to your own requirements.

Advanced Settings

This setup screen includes sub-menus for CPU Configuration, Chipset Configuration, ACPI Configurations, Storage Configurations, PCIPnP Configurations, SuperIO Configurations and USB Configurations.

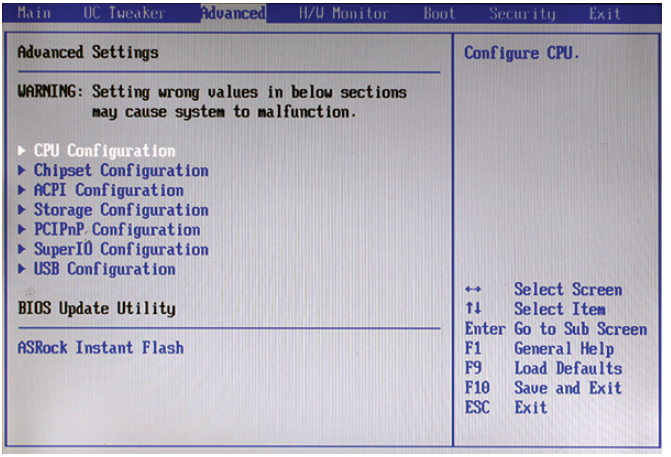


Figure 2.4 Advanced Settings Screen

ASRock Instant Flash

This item is used to execute the BIOS update utility. The utility can search BIOS files in USB and hard disk drive automatically for updating.

CPU Configuration

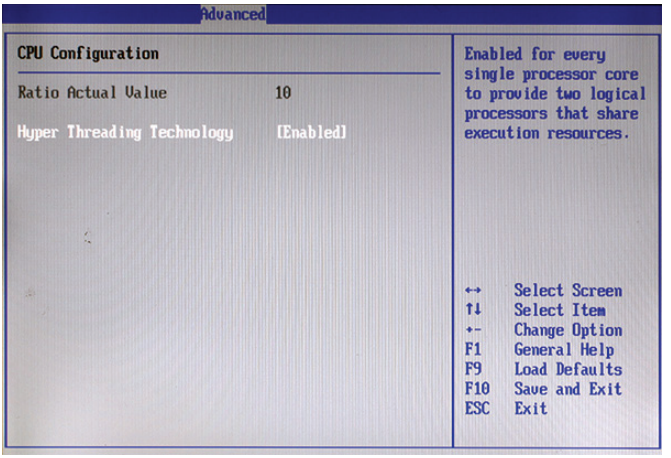


Figure 2.5 CPU Configuration sub-menu

Hyper Threading Technology

This item is used to enable/ disable the Hyper Threading technology. Hyper Threading technology allows one processor to work on two separate operations at the same time.

Chipset Configuration

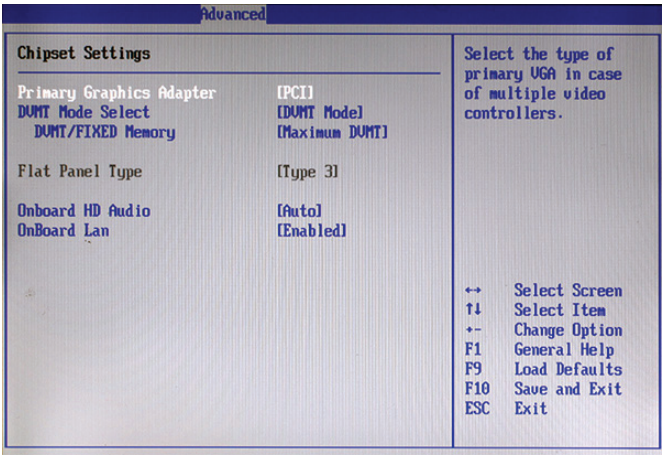


Figure 2.6 Chipset Configuration sub-menu

Primary Graphics Adapter
This item specifies which graphics card is your primary graphics adapter.

DVMT Mode Select
Intel's Dynamic Video Memory Technology (DVMT) allows the system to dynamically allocate memory resources according to the demands of the system at any point in time. The key idea in DVMT is to improve the efficiency of the memory allocated to either system or graphics processor. It is recommended that you set this BIOS feature to DVMT Mode for maximum performance. Setting it to DVMT Mode ensures that system memory is dynamically allocated for optimal balance between graphics and system performance.

DVMT/FIXED Memory
When set to DVMT/FIXED Mode, the graphics driver will allocate a fixed amount of memory as dedicated graphics memory, as well as allow more system memory to be dynamically allocated between the graphics processor and the operating system.

Flat Panel Type
This item allows you to select the type of flat panel monitor.

Onboard HD Audio
This item allows you to enable or disable the onboard HD Audio feature. If you select [Auto], the onboard HD Audio will be disabled when PCI Sound Card is plugged.

Onboard LAN
This item allows you to enable or disable the built-in LAN port.

ACPI Configuration

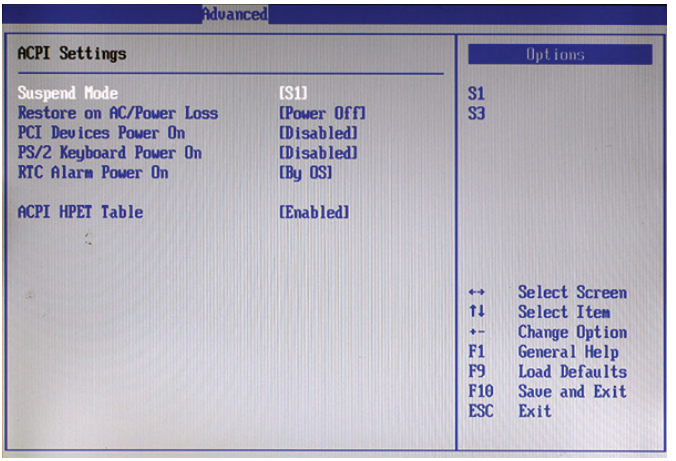


Figure 2.7 ACPI Configuration sub-menu

Suspend Mode

Use this item to define how the system suspends. In the default, S1(POS), the suspend mode is equivalent to a software power down. If you select S3(STR), the suspend mode is a suspend to RAM - the system shuts down with the exception of a refresh current to the system memory.

Restore on AC/Power Loss

This item sets the system status after restore on AC power loss.

PCI Devices Power On

This item is used to enable/disable PCI devices to turn on the system.

PS/2 Keyboard Power On

This item is used to enable/disable PS/2 keyboard to turn on the system.

RTC Alarm Power On

This item is used to enable/disable RTC (Real Time Clock) to power on the system..

ACPI HPET Table

This item is used to enable/disable ACPI HPET Table.

Storage Configuration

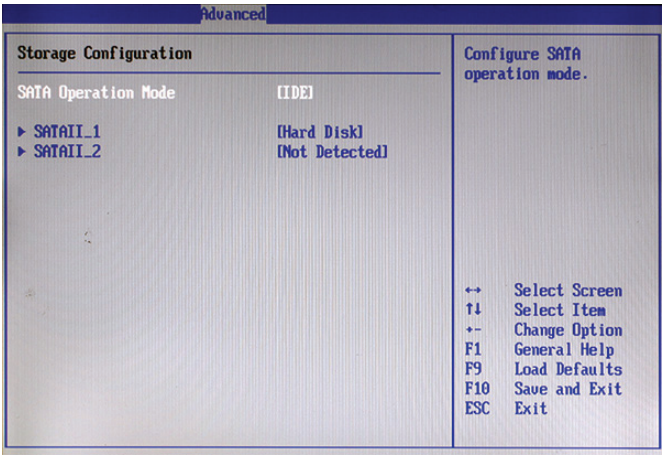


Figure 2.8 Storage Configuration sub-menu

SATA Operation Mode

This feature allows users to select SATA operation mode.

SATAII_1, SATAII_2

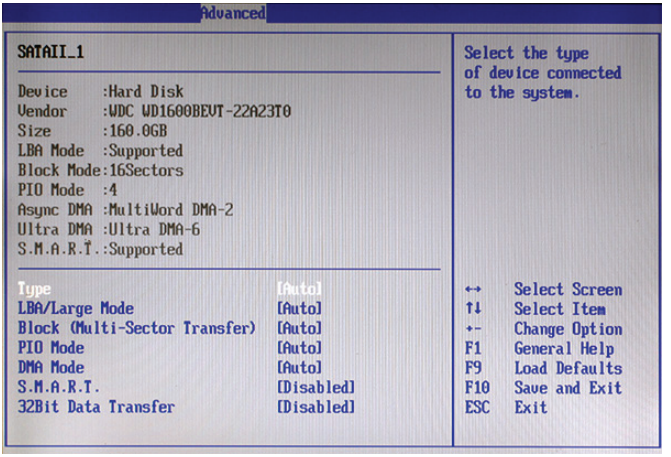


Figure 2.9 SATAII sub-menu

Type
Select [Auto] to automatically detect hard disk drive. If auto detection is successful, the BIOS Setup automatically fills in the correct values for the remaining fields on this sub-menu. If the auto detection fails, it may due to that the hard disk is too old or too new. If the hard disk was already formatted on an older system, the BIOS Setup may detect incorrect parameters. In these cases, select [User] to manually enter the IDE hard disk drive parameters.

LBA/Large Mode
This allows user to select the LBA/Large mode for a hard disk > 512 MB under DOS and Windows; for Netware and UNIX user, select [Off] to disable the LBA/Large mode.

Block (Multi-Sector Transfer)
Set this item to [On] will enhance hard disk performance by reading or writing more data during each transfer.

PIO Mode
This item is used to select the IDE PIO (Programmable I/O) mode program timing cycles between the IDE drive and the programmable IDE controller. As the PIO mode increases, the cycle time decreases.

DMA Mode
This allows user to select the Direct Memory Access (DMA) mode.

S.M.A.R.T.
This item is used to enable monitoring of hard disks that support the S.M.A.R.T. (Self-Monitoring And Reporting Technology) feature, which can allow the hard disk to report, under some circumstances, impending failures of the hard disk.

32Bit Data Transfer
It allows user to enable 32-bit access to maximize the IDE hard disk data transfer rate.

PCIPnP Configuration

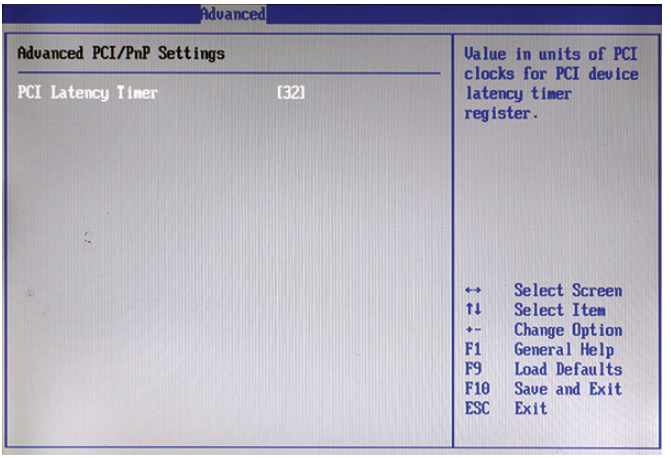


Figure 2.10 PCIPnP Configuration sub-menu

PCI Latency Timer

This item allows you to adjust the PCI Latency Timer of all PCI devices on the PCI bus.

SuperIO Configuration

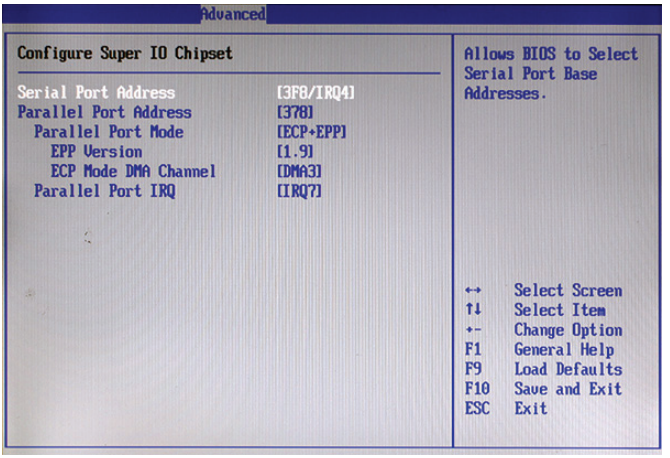


Figure 2.11 SuperIO Configuration sub-menu

Serial Port Address
These items are used to assign the I/O address for the serial port.

Parallel Port Address
This item allows user to select the I/O address for the parallel port.

Parallel Port Mode
This item allows user to select the parallel port mode.

EPP Version
This item allows user to select the EPP version.

ECP Mode DMA Channel
This item allows user to assign a DMA channel for use by the parallel port.

Parallel Port IRQ
This item allows user to select the IRQ for the parallel port.

USB Configuration

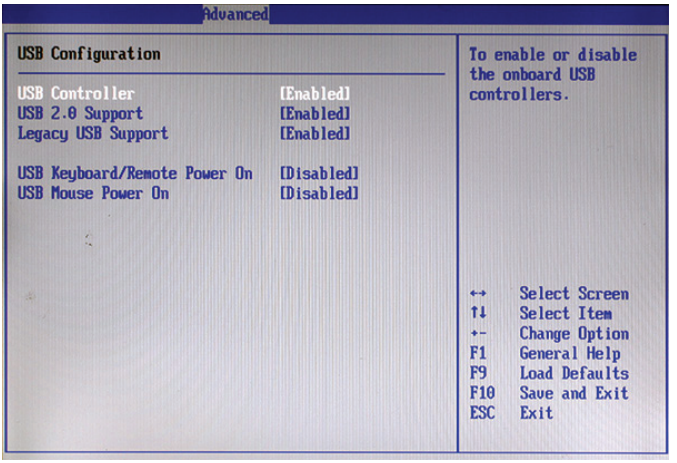


Figure 2.12 USB Configuration sub-menu

USB Controller
This item is used to enable/disable the USB controller.

USB 2.0 Support
This item is used to enable/disable the USB 2.0 support.

Legacy USB Support
When enabled, the BIOS will enable legacy support for USB keyboards, mice and floppy drives. You will be able to use these USB devices even with operating systems that do not support USB.

USB Keyboard/Remote Power On
This item is used to enable/disable USB keyboard/remote to turn on the system.

USB Mouse Power On
This item is used to enable/disable USB mouse to turn on the system.

H/W Monitor

This screen allows you to monitor the status of the hardware on your system, including the parameters of the CPU temperature, mainboard temperature, CPU fan speed, chassis fan speed, and the critical voltage.

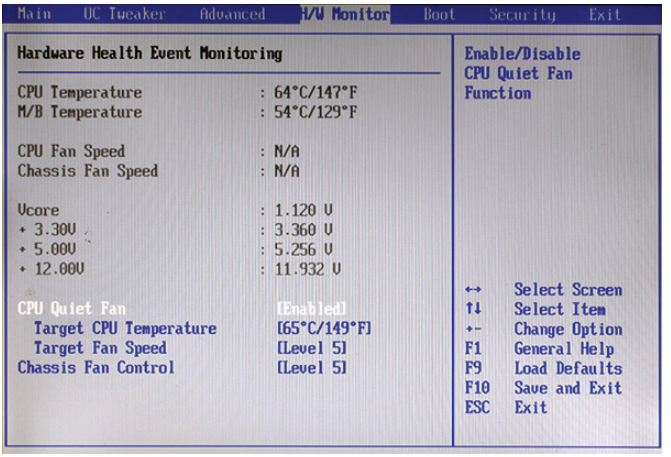


Figure 2.13 H/W Monitor sub-menu

CPU Quiet Fan

If you set this option as [Disabled], the CPU fan will operate in full speed. If you set this option as [Enabled], you will find the items "Target CPU Temperature" and "Target Fan Speed" appear to allow you adjusting them.

Target CPU Temperature

This item allows you to select a target CPU temperature.

Target Fan Speed

This item allows you to set the target fan speed. You can adjust the target fan speed according to the target CPU temperature.

Chassis Fan Control

This item allows you to set the chassis fan speed.

Boot Settings

This screen allow you to configure the boot options.

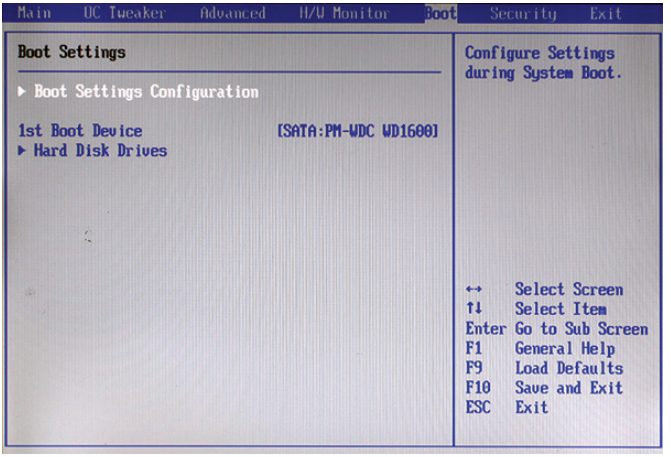


Figure 2.14 Boot Settings screen

1st Boot Device

Set the boot device options to determine the sequence in which the computer checks which device to boot from.

Boot Settings Configuration

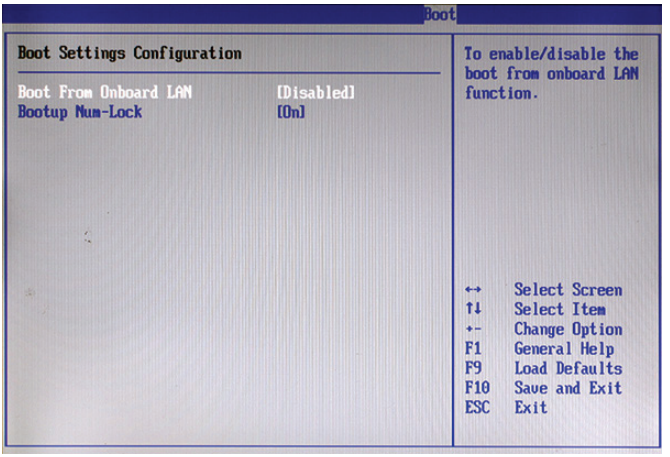


Figure 2.15 Boot Settings Configuration sub-menu

Quick From Onboard LAN

This item is used to enable/disable the boot from onboard LAN function.

Bootup Num-Lock

This setting is to set the Num Lock status when the system is powered on. Setting to [On] will turn on the Num Lock key when the system is powered on. Setting to [Off] will allow users to use the arrow keys on the numeric keypad.

Security Settings

This screen allows you to configure the system security settings.

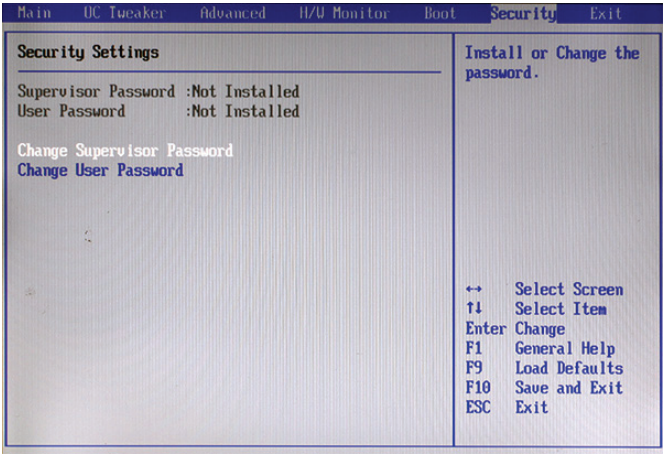


Figure 2.16 Security Settings screen

Supervisor/User Password

Indicates whether a supervisor/user password has been set. If the password has been installed, *Installed* displays. If not, *Not Installed* displays.

Change Supervisor/User Password

You can use this option change the supervisor/user password.

User Access Level

This item allows you to set the user access rights to the BIOS Setup Utility.

[No Access] prevents user access to the BIOS Setup Utility.

[View Only] allows the user to view but not change the BIOS Setup Utility fields.

[Limited] allows the user to changes some fields.

[Full Access] allows the user to changes all fields except the supervisor password.

Clear User Password

Select this option and press <Enter> to access the sub menu. You can use the sub menu to clear the user password.

Password Check

[Setup] Check password while entering BIOS setup.

[Always] Check password while booting.

Exit Menu

This screen allows you to load the optimal or failsafe default values, and save or discard changes.

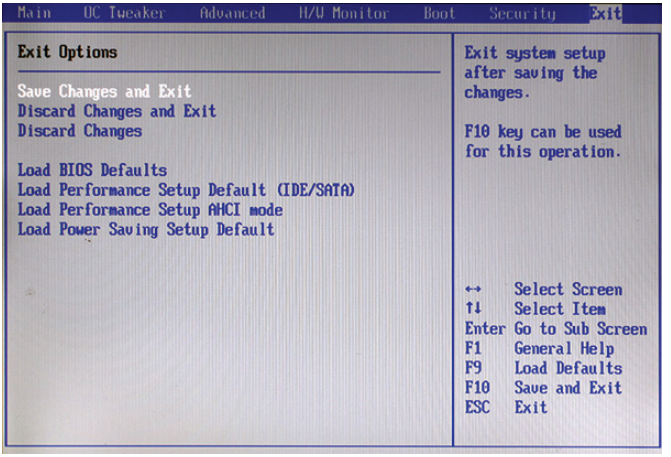

Main OC Tweaker Advanced H/W Monitor Boot Security Exit
Exit Options
Save Changes and Exit
Discard Changes and Exit
Discard Changes
Load BIOS Defaults
Load Performance Setup Default (IDE/SATA)
Load Performance Setup AHCI mode
Load Power Saving Setup Default
Exit system setup after saving the changes.
F10 key can be used for this operation.
↔ Select Screen
↑↓ Select Item
Enter Go to Sub Screen
F1 General Help
F9 Load Defaults
F10 Save and Exit
ESC Exit

Figure 2.17 Exit Menu screen

Save Changes and Exit

Highlight this item and press <Enter> to save the changes that you have made in the Setup Utility and exit the Setup Utility. When the dialog box appears, press <OK> to save and exit, or press <Cancel> to return to the menu.

Discard Change and Exit

Highlight this item and press <Enter> to discard any changes that you have made in the Setup Utility and exit. When the dialog box appears, press <OK> to discard changes and exit, or press <Cancel> to return to the menu.

NOTE

If you have made settings that you do not want to save, use the "Discard Charge and Exit" item and press OK to discard any changes you have made.

Discard Change

Highlight this item and press <Enter> to discard any changes that you have made in the Setup Utility. When the dialog box appears, press <OK> to discard changes and exit, or press <Cancel> to return to the menu.

Load BIOS Defaults

This option opens a dialog box that lets you load BIOS defaults for all appropriate items in the Setup Utility. The BIOS defaults place no great demands on the system and are generally stable. If the system is not functioning correctly, try loading the BIOS defaults as a first step in getting the system working properly again.

Follow these instructions: to load the BIOS defaults:

1. From the Exit screen, scroll to Load BIOS Defaults.
2. Press <Enter> to open the Load Setup BIOS Defaults screen.
3. Select <Ok>.
4. Press <Enter> to load the defaults.

Load Performance Setup Default (IDE/SATA)

This option opens a dialog box that lets you load performance defaults for all appropriate items in the Setup Utility. The IDE/SATA defaults place demands on the system that may be greater than the performance level of the components, and set the SATA mode to IDE/SATA.

Follow these instructions to load the defaults:

1. From the Exit screen, scroll to Load Performance Setup Default (IDE/SATA).
2. Press <Enter> to open the Load Performance Setup Default (IDE/SATA) screen.
3. Select <Ok>.
4. Press <Enter> to load the defaults.

Load Performance Setup Default AHCI mode

This option opens a dialog box that lets you load performance defaults for all appropriate items in the Setup Utility. The AHCI defaults place demands on the system that may be greater than the performance level of the components, and set the SATA mode to AHCI.

Follow these instructions to load the defaults:

1. From the Exit screen, scroll to Load Performance Setup Default AHCI mode.
2. Press <Enter> to open the Load Performance Setup Default AHCI mode screen.
3. Select <Ok>.
4. Press <Enter> to load the defaults.

Load Power Saving Setup Default

This option opens a dialog box that lets you load power saving defaults for all appropriate items in the Setup Utility. The power saving defaults place demands on the system and reduce power consumption.

Follow these instructions to load the defaults:

1. From the Exit screen, scroll to Load Power Saving Setup Default.
2. Press <Enter> to open the Load Power Saving Setup Default.
3. Select <Ok>.
4. Press <Enter> to load the defaults.

CHAPTER 3
UPGRADING COMPONENTS

This chapter describes how to upgrade components for the PT-5900. The following topics are described.

- Safety and precautions on page 35
- Before you begin on page 36
- Upgrading the hard drive on page 37

Safety and precautions

Computer components and electronic circuit boards can be damaged by discharges of static electricity. Working on computers that are still connected to a power supply can be extremely dangerous. Follow these guidelines to avoid damage to the computer or injury to yourself.

- Always disconnect the unit from the power outlet.
- Leave all components inside the static-proof packaging that they ship with until they are ready for installation.
- After replacing optional devices, make sure all screws, springs, or other small parts are in place and are not left loose inside the case. Metallic parts or metal flakes can cause electrical shorts.

Only qualified personnel should perform repairs on the PT-5900. Damage due to unauthorized servicing is not covered by the warranty. If you are not confident of installing a hard drive or CompactFlash card, we recommend that you refer the job to qualified personnel.

If the LCD breaks and fluid gets onto your hands or into your eyes, immediately wash with water and seek medical attention.

The inverter card has high voltage. Do not touch the inverter card while power is connected to the machine. Unplug the power cord before attempting to replace any part.

To prevent static damage to components, wear a grounded wrist strap. Alternatively, discharge any static electricity by touching the bare metal chassis of the unit case, or the bare metal body of any other grounded appliance.

Hold electronic circuit boards by the edges only. Do not touch the components on the board unless it is necessary to do so. Do not flex or stress the circuit board. Do not hold components such as a processor by its pins; hold it by the edges.

Before you begin

Make sure you have a stable, clean working environment. Dust and dirt can get into components and may cause malfunction. Adequate lighting and proper tools can prevent you from accidentally damaging the internal components.

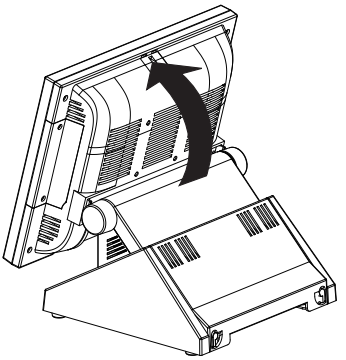
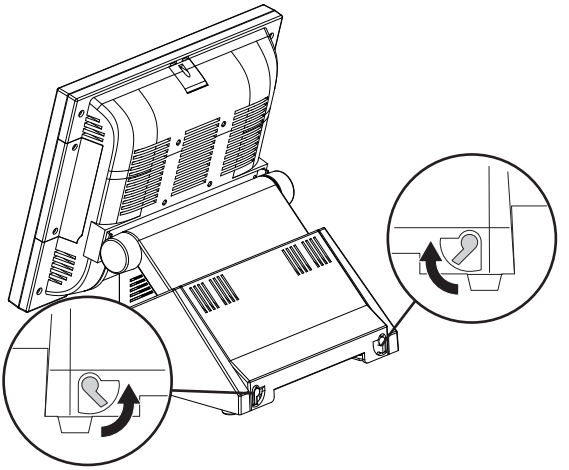
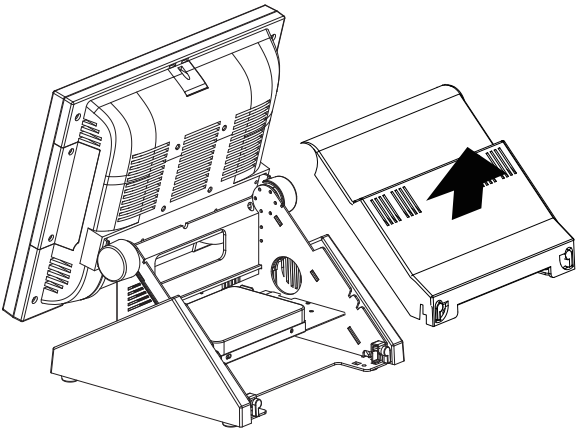
Most of the electrical and mechanical connections can be disconnected by using your fingers. It is recommended that you do not use needle-nosed pliers to disconnect connectors as these can damage the soft metal or plastic parts of the connectors.

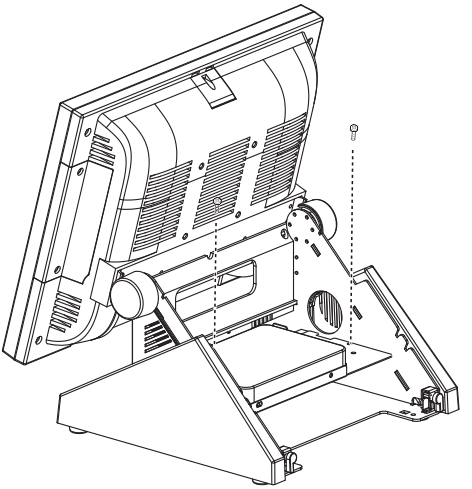
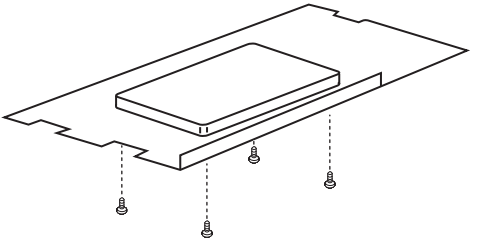
CAUTION

To prevent scratching the case of the machine, make sure the worktop surface is clean and flat.

Upgrading the hard drive

Refer to the following to remove and replace the hard drive.

1. Turn off the device properly through the operating system. 2. Disconnect the power cord from the power outlet. 3. Rotate the LCD screen forward .	
4. Open the rear cover latches.	
5. Remove the rear cover.	

6. Remove the two screws to remove the hard drive tray. 7. Disconnect the power cable and SATA cable from the hard drive.	
8. Remove the four screws, then remove the hard drive out from the tray.	

To replace the hard drive, reverse the above procedure.

This appendix describes locating and solving problems that you may encounter while using the PT-5900 POS.

Troubleshooting

Often after time spent troubleshooting, the problem is traced to something as simple as a loose connection. Check the following before proceeding to the problem-specific solutions.

Tips for Troubleshooting

In each problem-specific section, try the steps in the order suggested. This may help you to solve the problem more quickly. Try to pin point the problem and thus avoid replacing non-defective parts. For example, if you replace batteries and the problem remains, put the original batteries back and go to the next step.

Keep a record of the steps you take when troubleshooting: The information may be useful when calling for technical support or for passing on to service personnel.

- Use some other electrical device to confirm that the electrical outlet is working.
- Ensure all connections are securely attached.

The Power-On Self Test

The Power-On Self Test (POST) runs every time you turn on or reset the computer. The POST checks memory, the mainboard, the display, the keyboard, the disk drives, and other installed options.

If failure is detected in an area other than the mainboard (such as the keyboard or an adapter card), an error message is displayed on the screen and testing is stopped.

If your system does not successfully complete the POST, but displays a blank screen, have the PT-5900 serviced.

Beep Errors at POST

There are two kinds of beep codes in the BIOS.

- Video error - a single long beep followed by three short beeps indicates a video error, the screen can not be initialized and no information can be displayed.
- DRAM error - a single long beep indicates that a DRAM error has occurred.

Beep Message Errors at POST

If the BIOS detects an error during the POST, a message is displayed. Refer to the following table for a list of the errors that display.

The system uses a 3V CR2032 battery (CMOS battery) mounted on the mainboard to keep time. There is a risk of explosion if the wrong battery type is used when replacing. Dispose of used batteries according to local ordinance regulations.

ERROR MESSAGE	CAUSE	SOLUTION
CMOS BATTERY HAS FAILED	The CMOS battery is depleted.	Replace the battery.
CMOS CHECKSUM ERROR	The battery may be weak.	Replace the battery.
	The CMOS may be corrupt.	Have the PT-5900 serviced.
HARD DISK(S) FAIL (80)	HDD reset failed.	Have the PT-5900 serviced.
HARD DISK(S) FAIL (40)	HDD controller diagnostics failed.	Have the PT-5900 serviced.
HARD DISK(S) FAIL (20)	HDD initialization error.	Have the PT-5900 serviced.
HARD DISK(S) FAIL (10)	Unable to recalibrate fixed disk.	Have the PT-5900 serviced.
KEYBOARD IS LOCKED OUT - UNLOCK THE KEY	The keyboard is locked and the key-board controller is pulled low.	Have the PT-5900 serviced.
KEYBOARD ERROR OR NO KEYBOARD PRESENT	A keyboard is not detected.	Make sure the keyboard is attached correctly and no key is pressed during boot.
MANUFACTURING POST LOOP	System keeps rebooting because the keyboard controller is pulled low for testing purposes.	Have the PT-5900 serviced.
BIOS ROM CHECKSUM ERROR - SYSTEM HALTED	The ROM address is incorrect.	Have the PT-5900 serviced.
MEMORY TEST FAIL	The memory card is not correctly installed or is damaged.	Have the PT-5900 serviced.

General Problems

Refer to the following general problems you may encounter.

PROBLEM	SOLUTION
The display screen is dark.	Make sure that the PT-5900 is not in suspend mode.
An incorrect date and time are displayed.	Correct the date and time using the DOS DATE and TIME commands or the options in the Setup Utility. (You can also set the date and time in Windows by double clicking the clock on the task bar or in the control panel.) If the date and time become incorrect after a short time, the CMOS battery may be depleted. Replace the battery.
The following message appears at boot up: "Invalid system disk, Replace the disk, and then press any key"	Ensure that an operating system is installed. Check the boot sequence in the BIOS setup utility.
You hear irregular beeps during operation of the computer and the system halts.	Have the PT-5900 serviced.
An unidentified message is displayed.	Reboot the computer and run the BIOS Setup Utility. Confirm the Setup Utility parameters. If the same message is displayed after booting up again, have the PT-5900 serviced.
You cannot operate the printer.	Check the printer cable connection. Ensure that the printer power switch is turned on. Confirm that the printer is on-line.
You cannot use a mouse or keyboard.	Check the cable connection. Check the mouse or keyboard with another computer to see if it works. If the same problem occurs, replace the mouse or keyboard.
The screen is blank and you don't hear any beeps.	Check that the AC adapter is connected to the PT-5900 and the power cord is plugged into a working electrical outlet. Check that the power is on. (Press the power switch again for confirmation.)
The screen is blank and you hear a continuous beep, or two or more beeps.	Have the PT-5900 serviced.
Only the cursor appears.	Reinstall the operating system, and power on the PT-5900.
Audio problems	Ensure the audio cable is not defective. The mute is off.

Having the PT-5900 Serviced

If you are unable to solve the problem, you should have the terminal serviced. Pack the terminal in the original carton. (See “Unpacking the PT-5900” on page 1.) Include a description of the problem and a checklist of the steps you took when trying to fix the problem. The information may be useful to the service personnel. Return the terminal to the place you purchased it.

Specifications

CPU Type	Intel® Atom™ processor D410 (512K L2 Cache, 1.66 GHz, single core)	Intel® Atom™ processor D425 (512K L2 Cache, 1.80 GHz, single core)
Chipset	Intel® NM10 Express	
LCD	15” Active TFT color LCD, resolution 1024 x 768	
Touch	5-wire Resistive touch (USB Interface)	
Memory	1GB DDRII 800/667 DIMM (up to 4 GB)	
Ethernet	Gigabit 10/100/1000 Mb/s	
Storage	2.5” Type SATA HDD 160GB	
I/O Interface	3 * COM Ports	
	1 * DB-15 VGA Port	
	1 * DB-25 for LPT Port	
	1 * PS/2 Keyboard Port	
	1 * PS2 Mouse Port	
	1 * RJ-45 LAN Port with activity/ link and Speed LEDs	
	3 * Audio Ports (1 * Line-in, 1 * Line-out , 1 * MIC-in)	
	4 * USB 2.0 Ports	
	1 * DC +12V Power Adaptor Connector	
Optional Peripherals	3 tracks magnetic reader	
	Customer display module (2 x 20 VFD)	
	Biometric Reader, Smart Card Reader, I-Button, RFID reader	
	KB-32 (32-Keys Keypad)	
Operation System	Windows 7, Windows XP, XPe, Linux (ubuntu, Fedora) , WEPOS, POSReady,	
Power Supply	AC100~240V/DC12V, 7.5A, 90 watt power adaptor	
Dimensions	360mm (W) x 246mm (D) x 315mm (H)	

Operating Temp.	0~+40˚C
Storage Temp.	-20˚C~+60˚C
Humidity	15%~80%